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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/605,035	09/03/2003	**Zafar Iqbal**	19441.0066	2034

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EXAMINER	
PARSONS, THOMAS H	
ART UNIT	**PAPER NUMBER**
1795	

MAIL DATE	DELIVERY MODE
05/12/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/605,035	IQBAL ET AL.	
	Examiner	Art Unit	
	THOMAS H. PARSONS	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 April 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4-6,11,12,15,16,18-20 and 25-30* is/are rejected.

7)☒ Claim(s) *3, 7-10, 13-14, 17, 21-24* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 September 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/08/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of claims 1-14 in the reply filed on 15 April 2008 is acknowledged. The traversal is on the ground(s) that the so-called "species" are not true species, because they are not mutually exclusive. Specifically, the features labeled by the Examiner as "species" are not mutually exclusive. For example, a conductive overcoating "sealing some or all of the porosities" may also be "primarily localized on the porosities as an amorphous structure", depending on the particular configuration and materials. Moreover, the so-called "species" of claim 25 and of claims 28-30 cannot be mutually exclusive of the "species" of claims 5-24, 26 and 27, as claims 25 and 28-30 depend from claim 15. Given the substantial overlap of subject matter of these species, some of which may be capable of use together, the features or functionalities are not properly characterized as distinct species under M.P.E.P. § 808.01(a). In sum, the features labeled by the Examiner as "species". This argument has been found persuasive. The species election requirement has been **withdrawn.**

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-2, 4-5, 11-12, 15-16, 18-19, and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Yoshimura et al. (US 6,291,094.

Claim 1: Yoshimura et al. in Figures 4, 8-11 disclose a coated fuel cell bipolar plate (30) (col. 4: 9-23) comprising:

a metal plate (65, 66);

an electrically conductive corrosion resistant coating (62) formed over the metal plate, the coating including a top surface and porosities; and

an electrically conductive overcoating (64) formed over the electrically conductive corrosion resistant coating, the overcoating sealing some or all of the porosities (micro-holes in the metal plating layer as per col. 7: 49-51) at the top surface of the electrically conductive corrosion resistant coating. See entire document, in particular, col. 6: 6-col. 8: 65 and col. 13: 54-col. 16: 34.

Claim 2: Yoshimura et al. further disclose that the metal plate includes aluminum (col. 2: 30-34).

Claim 4: Yoshimura et al. further disclose that the electrically conductive corrosion resistant coating includes titanium (col. 8: 47-65).

Claim 5: Yoshimura et al. further disclose that the electrically conductive corrosion resistant coating includes titanium nitride (col. 8: 47-65).

Claim 11: Yoshimura et al. disclose that the overcoating is hydrophobic. In particular, Yoshimura et al. disclose the same overcoating (graphite) as that instantly disclosed a hydrophobic.

Claim 12: Yoshimura et al. further disclose that the overcoating includes amorphous graphite.

Claim 15: Yoshimura et al. in Figures 4 and 8-11 disclose a coated fuel cell bipolar plate (30)(col. 4: 9-23 comprising:

a metal plate (65, 66);

an electrically conductive corrosion resistant coating (62) formed over the metal plate, the electrically conductive corrosion resistant coating (64) including a top surface and porosities (micro-holes in the metal plating layer as per col. 7: 49-51); and an overcoating formed over the electrically conductive corrosion resistant coating, the overcoating being primarily localized on the porosities at the top surface as an amorphous structure. See entire document, in particular, col. 6: 6-col. 8: 65 and col. 13: 54-col. 16: 34.

Claim 16: The rejection of claim 16 is as set forth above in claim 2.

Claim 18: The rejection of claim18 is as set forth above in claim 4.

Claim 19: The rejection of claim 19 is as set forth above in claim 5.

Claim 25: Yoshimura et al. in Figures 9-10 disclose an overcoating comprises a 3 discontinuous layer (e.g. 264 in Figure 9) of electrically insulating material.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 6, 20, and 26-30 rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura et al. as applied to claims 1 and 15, respectively, above.

Yoshimura et al. are as applied, argued, and disclosed above, and incorporated herein.

Claims 6 and 20: Yoshimura et al. do not disclose that the electrically conductive corrosion resistant coating includes titanium aluminum nitride. However, Yoshimura et al. in col. 8: 47-65 disclose that the material of the first layer needs merely to be a material which has sufficiently high electric conductivity and which does not form a passive state film or an oxide film having no substantial electric conductivity. Therefore, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have selected any appropriate material for the first layer, including the claimed titanium aluminum nitride.

Claim 26: Yoshimura et al. do not disclose that the overcoating (second layer 64) comprises an oxide.

Claim 27: Yoshimura et al. do not disclose that the oxide comprises aluminum oxide.

Claim 29: Yoshimura et al. do not disclose that the overcoating comprises a suboxide.

Claim 30: Yoshimura et al. do not disclose that the suboxide comprises a suboxide of titanium.

However, Yoshimura et al. on col. 8: 60 that the material of the second coating layer needs merely to be capable of being formed, through plating or the like, in to a film on a surface of each of the base sheet from which an oxide film or a passive state film has been removed, before a non-electrically conductive film is formed again.

Therefore, it would have been within the skill of one having ordinary skill in the art at the time the invention was made to have selected any appropriate material for the second layer, including those instantly claimed.

Claim 28: Yoshimura et al. in col. 7: 56-69 disclose that the separator is produced by plating a stainless steel sheet and then coating the surface with a carbon material so that a sufficiently high electrical conductivity can be achieved.

Therefore, it would have been obvious to one skilled in the art at the time the invention was made that the overcoating of Yoshimura et al would be sufficiently electrically conductive to permit an electrical charge to pass through the overcoating to the coating.

Allowable Subject Matter

5. Claims 3, 7-10, 13-14, 17, and 21-24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for Indicating Allowable Subject Matter

6. The following is a statement of reasons for the indication of allowable subject matter:

A search of the prior art of record failed to teach or suggest, alone or in combination, what is instantly claimed, in particular,

A coated fuel cell bipolar plate comprising, in part,

An electrically conductive corrosion resistant coating having a plurality of layers (C*laim 3*).

An electrically conductive corrosion resistant coating that includes: a sub-layer coated over the outer surface; and a layer coated over the sub-layer; wherein the sub-layer promotes adhesion of the layer to the sub-layer (*Claims 7-10*).

An overcoating that includes: a first layer of transition metal coated over the coating; and a second layer of amorphous graphite coated over the first layer (*Claims 13-14*).

A coating having a plurality of layers (*claim 17*).

A coating that: a sub-layer coated over the outer surface; and a layer coated over the sub-layer; wherein the sub-layer promotes adhesion of the layer to the sub-layer (*Claims 21-24*).

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THOMAS H. PARSONS whose telephone number is (571)272-1290. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795

Thomas H Parsons
Examiner
Art Unit 1795

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